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10/829,406	04/21/2004	Holger Glass	941-011778-US (PAR)	5965

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EXAMINER	
TRINH, TAN H	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/829,406	GLASS ET AL.	
	Examiner	Art Unit	
	TAN TRINH	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19,25 and 27* is/are rejected.

7)☒ Claim(s) *20-24 and 26* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-13, 15-16, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murray (U.S. Patent No. 2005/0136848).

Regarding claim 1, Murray teaches a mobile communication terminal (101) for use in a wireless communication network (24) (see fig. 1, page 2, section [0022]), the mobile communication terminal (101) comprising: a processor unit (151) controlling the operation of the mobile communication terminal (101); a microphone (190); a sound processing module (157) for processing sounds captured by the microphone (190) (see fig. 1, page 3, sections [0028-0029]); the processor unit (151) being configured to operate the terminal (101) for push-to-talk communication with at least one other mobile communication terminal via the communication network (see page 2-3, sections [0023-0024] and [000025-0026]); the processor unit operating the terminal during the push-to-talk communication in a latency state or in an active state in which sound captured by the microphone is processed by the sound processing module (157) and sent to the at least one other mobile communication terminal (see fig. 1, page 3, sections [0028-0031]); the processor unit being configured to change from the latency state to the active state in dependence of the sound captured by the microphone (see page 4-5, sections [0037-0041]). In this case, the multi-mode audio processor operating with transmitting sound from first transducer

in the first mode and when mobile terminal (101) is idle, and when a composite audio signal maybe generated from sound energy received by the first transducer and a second transducers are configured to operate as microphones during the second mode of operation (active), that is the processor configured to change from the latency state to active state (from first mode (latency state) to second mode (active state) operation, or from idle to active).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the above teaching of Murray, in order to provide user hands-free operation of the terminal such as push-to-talk function (see suggested by Murray on page 5, section [0041]).

Regarding claim 2, Murray teaches the processor unit (157) is configured to switch to the active state when the sound level detected by the microphone exceeds a first given threshold (see page 5 sections [0039-0040]). In this case, the mobile terminal is switched from the first mode of operation to second mode (active state) operation when the sound energy from first to second microphone input with sound energy created by human voice at different times and with different amplitude level (given threshold).

Regarding claim 3, Murray teaches the processor unit is configured to switch to the latency state when the sound level detected by the microphone drops below a second given threshold (see page 5, section [0042]). In this case, when voice activity is not detected at the microphone, the speaker/microphone may operate as a speaker in first mode (latency state) of operation.

Regarding claim 4, Murray teaches the terminal comprises a speech command recognition module (155) (see fig. 1, speech/data processor 155 and voice activity detector 191, page 2-3, sections [0023-0025]).

Regarding claim 5, Murray inherently teaches the processor unit is configured to switch to the active state when a given speech command is recognized by the speech command recognition module (see voice detected and speech processor 155, page 5 sections [0039-0042]).

Regarding claim 6, Murray inherently teaches the processor unit is configured to switch to the latency state when a given speech command is recognized by the speech command recognition module (see page 2, sections [0022-0023]). In this case, the receiving the incoming call, the microphone 180 and 190 detect the sound and switch from first mode to second mode (idle to active mode) the transition of the switching is the latency state.

Regarding claim 7, Murray inherently teaches the terminal comprises a voice recognition module for recognizing a given voice and the processor unit is configured to switch to the active state when a given voice is recognized by the voice recognition module (see voice detected and speech processor 155, page 5 sections [0039-0042]).

Regarding claim 8, Murray inherently teaches the processor unit is configured to switch to the latency state when the time of no capture of the microphone exceeds a third given

threshold (see page 5, section [0042]). In this case, when voice activity is not detected at the microphone, the speaker/microphone may operate as a speaker in first mode (latency state) of operation.

Regarding claim 9, Murray inherently teaches further comprising filtering means for preventing the microphone from capturing other sound sources different from the human voice (see page 4, section [0032]). In this case, the noise cancellation is comprising filtering.

Regarding claim 10, Murray inherently teaches the terminal comprises an incoming speech control module (see fig. 1, speech /data processor 155, page 2, section [0023]).

Regarding claim 11, Murray inherently teaches the processor unit is configured to switch to an incoming speech state in which the incoming speech control module receives incoming speech from the one other mobile communication terminal (see page 2, section [0024]).

Regarding claim 12, Murray inherently teaches the processor unit is configured to switch to the incoming speech state after an accepted speech command is recognized by the speech command recognition module (see page 3, sections [0029-0030]). In this case, once the call is established and the sound energy received by voice detector and the speaker/microphone 180 and 190 and operating in second mode (active state).

Regarding claim 13, Murray inherently teaches wherein the processor unit is configured to switch to the latency state when the incoming speech has been received by the incoming speech control module (see page 2, sections [0022-0023]). In this case, the receiving the incoming call, the microphone 180 and 190 detect the sound and switch from first mode to second mode (idle to active mode) the transition of the switching is the latency state.

Regarding claim 15, Murray teaches the active state comprises a queuing sub-state when the terminal is in an incoming speech state and sends a speech request to the communication network (see page 2, sections [0022-0023]).

Regarding claim 16, Murray teaches 16. A method for a push-to-talk communication between a mobile communication terminal (101) and at least one other mobile communication terminal via a communication network (24) (see fig. 1, page 2, section [0022]), comprising the steps of: (A) enabling a latency state of the terminal (see fig. 1, page 3, sections [0028-0029]). In this case, the enabling a latency state is when the audio processor circuit 157 configured to transmit sound from the speaker/microphone 180 (first mode) then transmit a signal to a user via the speaker/microphone 180, and generate an audio signal from sound energy received by microphone 190 in the first mode of operation. (B) capturing a sound by means of a microphone of the terminal (see page 3, section [0028-0030]). In this case, the audio signal generated from sound energy received by speaker/microphone 180 and microphone 190 with the voice detector 191 coupled with microphone 190 for capturing the sound. (C) switching the terminal to an active state, in dependence of the sound captured by the microphone (see page 4-5, sections

[0037-0041]). In this case, the multi-mode audio processor operating with transmitting sound from first transducer in the first mode and when mobile terminal (101) is idle, and when a composite audio signal maybe generated from sound energy received by the first transducer and a second transducers are configured to operate as microphones during the second mode of operation (active), that is the processor configured to change from the latency state to active state (from first mode (latency state) to second mode (active state) operation, or from idle to active).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the above teaching of Murray, in order to provide user hands-free operation of the terminal such as push-to-talk function (see suggested by Murray on page 5, section [0041]).

Regarding claim 25, Murray teaches a method for a push-to-talk communication between a mobile communication terminal (101) and at least one other mobile communication terminal via a communication network (24) (see fig. 1, page 2, section [0022]), comprising the steps of: (D) enabling a latency state of the terminal (see fig. 1, page 3, sections [0028-0029]). In this case, the enabling a latency state is when the audio processor circuit 157 configured to transmit sound from the speaker/microphone 180 (first mode) then transmit a signal to a user via the speaker/microphone 180, and generate an audio signal from sound energy received by microphone 190 in the first mode of operation. (E) alerting of an incoming speech (see page 2, sections [0022-0023]); (F) capturing a sound by means of a microphone of the terminal (see page 3, section [0028-0030]). In this case, the audio signal generated from sound energy received by speaker/microphone 180 and microphone 190 with the voice detector 191 coupled with

microphone 190 for capturing the sound. (G) switching the terminal to an incoming speech state, in dependence of the sound captured by the microphone (see page 4-5, sections [0037-0041]). In this case, the multi-mode audio processor operating with transmitting sound from first transducer in the first mode and when mobile terminal (101) is idle, and when a composite audio signal maybe generated from sound energy received by the first transducer and a second transducers are configured to operate as microphones during the second mode of operation (active), that is the processor configured to change from the latency state to active state (from first mode (latency state) to second mode (active state) operation, or from idle to active).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the above teaching of Murray, in order to provide user hands-free operation of the terminal such as push-to-talk function (see suggested by Murray on page 5, section [0041]).

Regarding claim 27, Murray teaches the incoming speech state comprises the sub-steps of: (IS.1) receiving an incoming speech from the one other mobile communication terminal; (IS.2) switching to the latency state of the terminal (see page 5, section [0042]). In this case, when voice activity is not detected at the microphone or other mobile is hand-up, the speaker/microphone may operate as a speaker in first mode (latency state) of operation.

3. Claims 14 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murray (U.S. Patent No. 2005/0136848) in view of Lazaridis (U.S. Pub. No. 2005/0079884).

Regarding claims 14 and 17, Murray teaches the active state comprises the sub-steps of: (AS.3) receiving a response from the communication network (24) (see page 3, section [0028]);

(AS.4) sending the sound captured by the microphone to the other mobile communication terminal, if the response from the communication network is positive (see page 5, sections [0041]). In this case, the call request is received and the voice activity is detected (sound captured) the microphone 190 and speaker/microphone 180 may operated as both a dynamic speaker and a dynamic microphone when user on call using for hands-free operation of the mobile terminal such as push-to talk function, the user on a call that is communication with both end. But Murray dos not mention the (AS.1) sending a speech request to the communication network; and (AS.2) waiting a response from the communication network.

However, Lazaridis teaches the (AS.1) sending a speech request to the communication network; and (AS.2) waiting a response from the communication network (see fig. 1, mobile terminal (12-1) send a speech request (18) to the communication network (16), for send voice data to correspond node pursuant (request) to a voice service, see on page 2, section [0022] and page 3, section [0036] on route the call request to the correspondent node); and (AS.2) waiting a response from the communication network (16) (see page 3, section [0036] when route the call request to the correspondent node and the correspond node accept the call placed thereto, acceptance of the call, connections are formed, permitting the telephone communications to proceed, since when the wait period for giving the permission for proceed, that is waiting a response period.

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify a above teaching of Murray with Lazaridis, in order to control signaling generated during call setup procedures are carried out to form a call connection between calling and called parties (see suggested by Lazaridis on page 3, section [0036]).

Regarding claim 18, Murray teaches the terminal switches to the latency state if the response in the sub-step (AS.3) is negative (see page 5, section [0042]). In this case, when voice activity is not detected at the microphone, the speaker/microphone may operate as a speaker in first mode (latency state) of operation.

Regarding claim 19, Murray teaches the active state comprises a sub-step (AS.5), between the sub-steps (AS.3) and (AS.4), comprising processing the sound captured by the microphone by means of a sound processing module (see voice detected and speech processor 155, page 5 sections [0039-0041]).

Allowable Subject Matter

4. Claims 20-24 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for allowance

5. The following is an examiner's statement of reasons for allowance:

Regarding dependent claim 20, Murray fails to teaches wherein step (C) comprises the sub-steps of: (C.1) comparing the sound level detected by the microphone with a first given threshold; (C.2) switching to the active state, if the sound level detected by the microphone exceeds the first given threshold as specified in dependent claim 20.

Regarding dependent claim 21, Murray fails to teaches wherein step (C) comprises the sub-steps of: (C.3) comparing a detected speech command with at least one speech command stored in the terminal; (C.4) switching to the active state, if the given speech command and one speech command stored in the terminal are substantially identical as specified in dependent claim 20.

Regarding dependent claim 22, Murray fails to teaches wherein step (C) comprises the sub-steps of: (C.5) comparing a detected voice with at least one voice stored in the terminal; (C.6) switching to the active state, if the detected voice and one voice stored in the terminal are identical as specified in dependent claim 22.

Regarding dependent claim 23, Murray fails to teaches the active state comprises after sub-step (AS.4) the sub-steps of: (AS.6) comparing a detected speech command with at least one speech command stored in the terminal; (AS.7) switching to the latency state, if the detected speech command and one speech command stored in the terminal are identical as specified in dependent claim 23.

Regarding dependent claim 24, Murray fails to teaches the active state comprises after sub-step (AS.4) the sub-steps of: (AS.8) comparing a time of no capture of the microphone with a third given threshold; (AS.9) switching the terminal to the latency state if the time of no capture of the microphone exceeds the third given threshold as specified in dependent claim 24.

Regarding dependent claim 26, Murray fails to teaches the wherein step (F) comprises the sub-steps of: (G.1) comparing a detected speech command with an accepting speech command stored in the terminal; (G.2) switching to the incoming speech state, if the detected speech command and the accepting speech command stored in the terminal are identical as specified in dependent claim 26.

Conclusion

6. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(571) 273-8300, (for Technology Center 2600 only)

*Hand-delivered responses should be brought to the Customer Service Window (now located at the **Randolph Building, 401 Dulany Street, Alexandria, VA 22314).***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan Trinh whose telephone number is (571) 272-7888. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, Anderson, Matthew D., can be reached at (571) 272-4177.

The fax phone number for the organization where this application or proceeding is assigned is **(571) 273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tan H. Trinh
Division 2618
August 29, 2007

PATENT EXAMINER
TRINH,TAN